

Amendments to the Claims:

The following listing of claims replaces all prior listings, and all prior versions, of claims in the application.

Listing of Claims:

1 - 5 (cancelled)

6. (currently amended) In a plasma processing method using a vacuum processing chamber, a gas supply plate in said vacuum processing chamber, a sample table for mounting a sample which is processed in said vacuum processing chamber wherein the sample is an electrically insulating film, and a plasma generation means, a side wall of said vacuum processing chamber including a temperature adjustment side wall which is positioned in an upper part of said side wall of said vacuum processing chamber, whereby said temperature adjustment side wall surrounds a plasma generating area located between said sample table and said gas supply plate, and a temperature controlling means for controlling a temperature of said temperature adjustment side wall by using a coolant medium, wherein a plasma processing is carried out by generating a plasma in response to introduction of a gas which contains at least carbon and fluorine, and a gas species is generated which contains a carbon and fluorine according to a plasma dissociation, the plasma processing method comprising the steps of:

generating a plasma in said plasma generating area in response to introduction of a gas which contains at least carbon and fluorine for processing said sample, wherein said plasma generation is effected using an electron cyclotron resonance system in which a microwave having a

frequency of from 300 MHz to 1 GHz is employed and wherein a degree of plasma dissociation is an intermediate degree and said gas species containing carbon and fluorine is generated fully in the plasma, and concurrently with said plasma generating step, controlling a temperature of a region which forms a said temperature adjustment side wall of said vacuum processing chamber to be in a range of 10 °C to 120 °C, wherein a temperature control accuracy of said temperature adjustment side wall, in said controlling, is  $\pm 5^{\circ}\text{C}$  for restraining a gas species discharge from said temperature adjustment side wall which contains carbon and fluorine according to a plasma dissociation.

7. (previously presented) A plasma processing method according to claim 6, wherein

said plasma generation produces a plasma in which an electron energy is a range of from 0.25 eV to 1 eV.

8. (cancelled)

9. (previously presented) A plasma processing method according to claim 6, wherein

in said plasma generation, a drive of a plasma exciting power supply is carried out intermittently.

10. (cancelled)

11. (previously presented) A plasma processing method according to Claim 6, wherein said temperature of the region which forms the side wall of said vacuum processing chamber is controlled to have a temperature in a range of 30° to 50° C.

12. (cancelled)

13. (previously presented) A plasma processing method according to Claim 6, wherein said plasma processing method is an etching method of the sample.

14. (previously presented) A plasma processing method according to Claim 13, wherein said sample has an oxide surface, and during said etching method the oxide surface is etched.

15. (currently amended) A plasma processing method according to Claim 13, wherein a distance between electrodes said sample table and said gas supply plate in the plasma processing chamber is 50-100 mm.

16. (currently amended) A plasma processing method according to Claim 6, wherein a distance between electrodes said sample table and said gas supply plate in the plasma processing chamber is 50-100 mm.

17. (new) A plasma processing method according to claim 6, further comprising a deposition film cover which is provided to a downstream region

of the temperature adjustment said wall, downstream of the mount of the sample on the sample table, and wherein during said plasma processing a deposition film is formed on said deposition film cover.